2 Sheets—Sheet 1.

I. M. FISHER.

FILLING AND EMPTYING INKSTANDS.

No. 189,209. Patented April 3, 1877.

Fig. 1

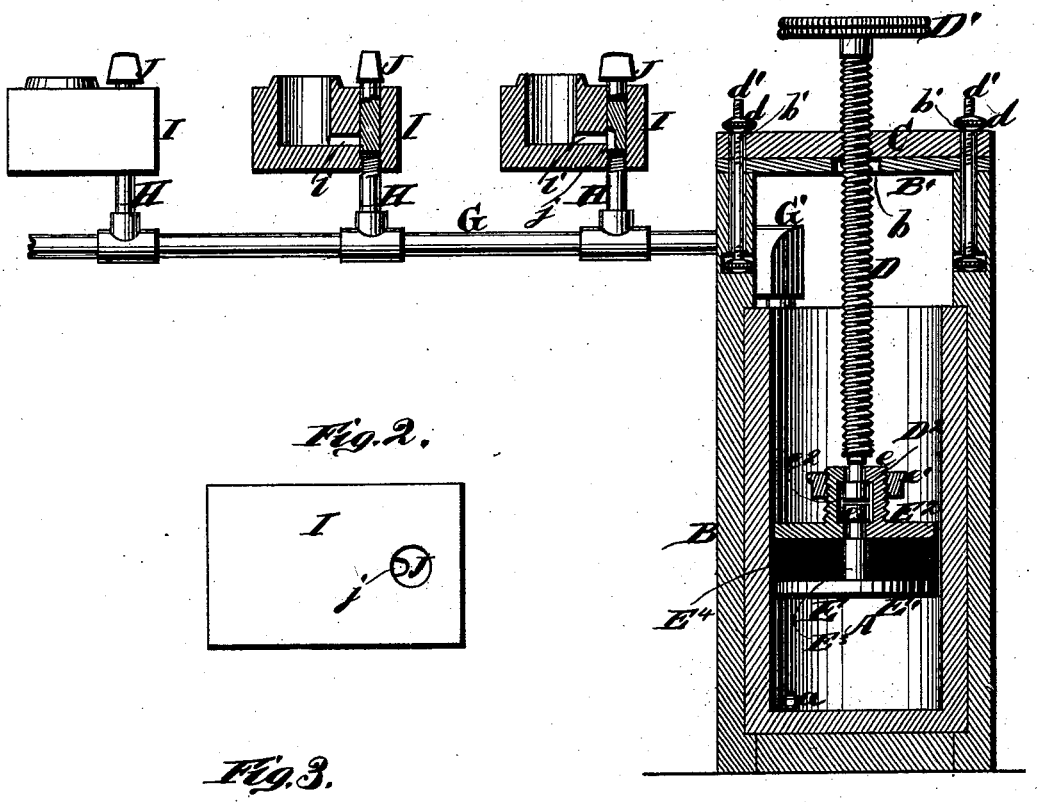
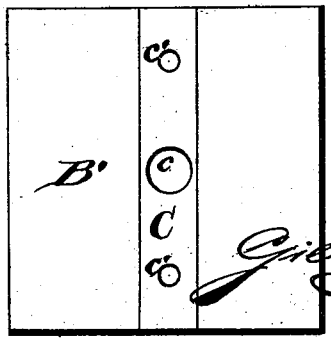


Fig. 2.

Fig. 3.

Fig. 4.



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2 Sheets—Sheet 2.

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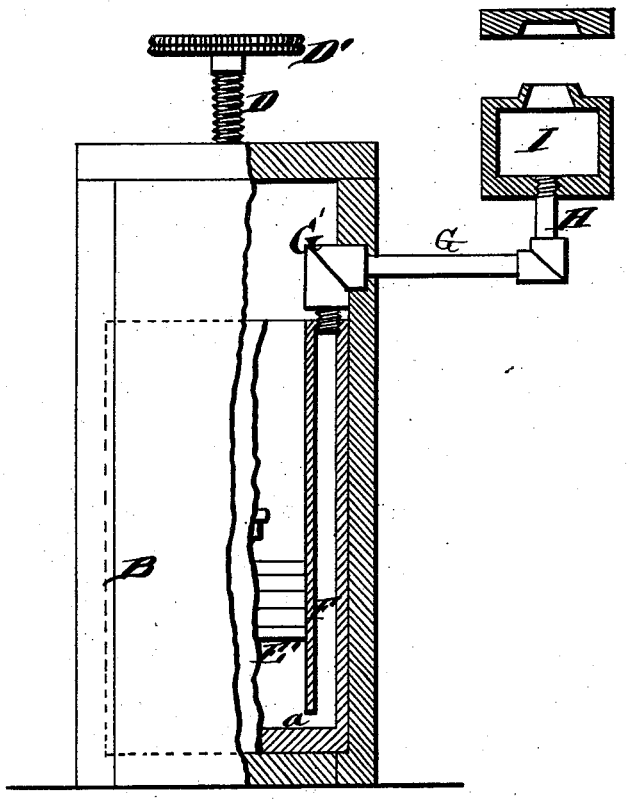
Fig. 5.



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UNITED STATES PATENT OFFICE.

I. MELVIN FISHER, OF CAMDEN POINT, MISSOURI.

IMPROVEMENT IN FILLING AND EMPTYING INKSTANDS.

Specification forming part of Letters Patent No. **189,209**, dated April 3, 1877; application filed February 24, 1877.

To all whom it may concern:

Be it known that I, I. MELVIN FISHER, of Camden Point, in the county of Platte and State of Missouri, have invented a new and valuable Improvement in Supply Ink-Wells; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a central vertical section of my supply ink-wells; and Figs. 2, 3, and 4 are detail views of the same. Fig. 5 is a side view (part sectional) thereof.

The object of this invention is to provide convenient devices for filling inkstands from a protected reservoir, and emptying said stands into the same. This object is effected by the combination, with an ink well or reservoir, of a screw-operated piston or follower and a system of pipes leading to the different inkstands, as hereinafter set forth.

In the accompanying drawings, A designates an ink well or reservoir, which is upright and cylindrical in form, having its upper end open. Said reservoir A is inclosed in a protecting jacket or casing, B, which rises above it and supports a cover, B′. Said cover is centrally perforated at *b*, and has also smaller perforations *b′ b′* on opposite sides thereof. C designates a metal block dovetailed into the top of said cover, as shown in Fig. 3, and extending across the same. Said block is screw-tapped at *c* and perforated at *c′ c′*, to correspond with said perforations *b b′ b′*.

D designates a screw-threaded rod, which works through said screw-threaded central perforation *c*, and is operated by turning a milled head or disk, D^1, fixed on its upper end. Said cover B′ and block C are secured to said casing B by means of milled nuts *d d*, which are screwed home upon screw-threaded rods or bolts *d′*, that pass upward through perforations *b′* and *c′*, above described. The lower ends of said rods are secured to said casing B.

The lower end of adjusting-rod D is provided with a piston or follower, E, which works up and down in ink well or reservoir A, and is constructed as hereinafter described. When the said piston or follower is depressed by the action of said screw-threaded adjusting-rod it forces the ink slowly out of said reservoir through an opening, *a*, at the bottom thereof, into a vertical passage or tube, F, Fig. 5, which may be formed in one piece with reservoir A, or separately, as preferred. From said passage F the ink flows into a distributing-pipe, G, connected to said passage by elbow-coupling G′. Said distributing-pipe is provided with a number of small branch pipes, H H, as shown in Fig. 1, which are, preferably, vertical, and pass up through the respective desks to inkstands I. Each one of said inkstands has a small horizontal ingress-passage, *i*, which communicates with the upper end of its tube H. This communication may be cut off or allowed to remain, at pleasure, by turning a small cock, J, which has near its lower end a way, *j*. Said cock works in a vertical cylindrical seat or space in said inkstand.

Where only a single desk is to be supplied with ink a form of inkstand without cock may be used, similar to that shown in Fig. 5. Several distributing-pipes, G, may be used instead of one, when such an arrangement is more convenient.

The piston or follower E consists of a bottom disk, E^1, preferably of glass, a sectional upper plate, E^2, and a series of interposed layers of rubber or other packing, E^4, which serve to keep the contact of said follower with ink-well A air-tight. Said sectional upper plate E^2 is provided with an upward tubular extension, *e*, and divided vertically. Said sectional tubular extension is screw-threaded on the outside, and held together by a screw-tapped collar or nut, e^1. On the inside of said extension *e* is a cylindrical chamber, e^2, partly closed at top and bottom. In said chamber sets a small cylinder or fixed collar, D^2, on the lower end of screw-threaded rod D, also a similar collar or head, e^3, on the upper end of a shank, E^3, attached to disk E^1. The above-described construction of said piston or follower makes it as firm as if manufactured in a single piece, while allowing all its parts to be readily separated for convenience in cleansing or other purposes.

When the said piston or follower is drawn up by the operation of screw-threaded rod D,

the ink is drawn back into reservoir A by the vacuum thus created and the pressure of the external air. This completely empties distributing-pipe G and so many of the inkstands I as are then in communication therewith. The casing B and top B′, being of material which does not conduct heat well, will then protect the ink from freezing.

By using this invention the accumulation of sediment in inkstands is almost entirely prevented, as they are frequently emptied, and the escaping current through their bottom openings cleanses them of all impurities. Water may also be forced in and out for this latter purpose by operating piston E. This invention also economizes time in filling and emptying the inkstands, and withdraws the ink from all contact with the atmosphere, whereby it is speedily deteriorated on account of evaporation and the deposition of dust, &c.

My ink-well is especially suited to be used in school-rooms, or wherever else many persons are engaged in using ink at the same time. The independent cock-connection of the different inkstands to the distributing-pipe makes it possible to fill any one or more of said stands without filling the remainder, or to leave one or more still full after school-hours or office-hours, when the others have been emptied.

The parts of said apparatus which come in contact with the ink may be made of any substance which will not be injured thereby. Passage F should be inclosed within casing B.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination of an ink-reservoir, with a follower working therein, and a distributing-pipe leading to several different inkstands, substantially as and for the purpose set forth.

2. Non-conducting casing B and head B′, in combination with ink-reservoir A and vertical passage F, substantially as and for the purpose set forth.

3. The combination of screw-tapped block C and screw-threaded rod D with piston or follower E, well A, tube F, and distributing-pipe G, substantially as and for the purpose set forth.

4. The combination of distributing-pipe G, with branch pipes H, inkstands I, having separate cocks J, passage F, reservoir A, and piston E, substantially as and for the purpose set forth.

5. The combination of screw-threaded rod D, having fixed collar D^2, with sectional upper piece E^2, clamping collar or nut e^1, packing E^4, and disk E^1, having shank E^3, with a collar fixed on its upper end, substantially as and for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

I. MELVIN FISHER.

Witnesses:
EUGENE W. JOHNSON,
JOHN F. ACKER.